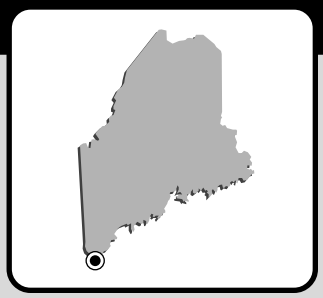
PORTSMOUTH NAVAL SHIPYARD, KITTERY
KITTERY, MAINE



Engineering Field Division/Activity:	NORTHDIV
Major Claimant:	COMNAVSEASYSCOM
Size:	278 Acres
Funding to Date:	$15,694,000
Estimated Funding to Complete:	$68,404,000
Base Mission:	Maintains, repairs and overhauls nuclear submarines
Contaminants:	Heavy metals, PCBs, pesticides, volatile organic compounds

Number of Sites:		**Relative Risk Ranking of Sites:**			
CERCLA:	17	**High:**	9	**Not Evaluated:**	1
RCRA Corrective Action:	15	**Medium:**	4	**Response Complete:**	15
RCRA UST:	1	**Low:**	4	**Total Sites:**	33
Total Sites:	33				

NPL

EXECUTIVE SUMMARY

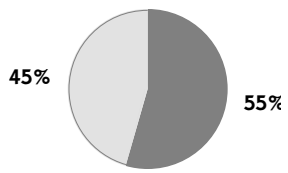
The Portsmouth Naval Shipyard, Kittery (NSY Kittery) is situated on Seavey Island in the Piscataqua River, a tidal estuary that is the boundary between New Hamphire and Maine. The shipyard is about 50 miles north of Boston, Massachusetts, and 50 miles south of Portland, Maine. The shipyard is actually located in Kittery, Maine about one mile northeast of Portsmouth, New Hampshire. Portsmouth is the largest center of population in the local area. The mission of NSY Kittery is servicing the fleet of nuclear propulsion, fleet ballistic missile and attack submarines. Shipyard activities that contributed to contamination were conducted in mechanical, structural, electrical/electronic, and public works shops. The shipyard was placed on the National Priorities List (NPL) in 1994. The current shipyard was created by filling in the areas between four small islands to create one large island near the mouth of Portsmouth Harbor in the Piscataqua River. Portsmouth, as a coastal area, has a complex hydrological environment. There are three ecological environments based on the salinity of the water. The marine ecosystem has a relatively high salt content. An estuarine ecosystem has a salinity which is highly variable depending on the tidal state and precipitation. The third environment, a freshwater ecosystem, has a very low salinity.

The Piscataqua River is part of the Great Bay Estuary. Ecological receptors specifically include lobster, shellfish, finfish, and other benthic fauna and flora. The presence of metals, oils, grease, the chemical additive PCB, cyanides, and phenols have been detected in sediment and surface water. The river, as part of the estuary, is a resource of tremendous value. The waters surrounding the shipyard are Class SB-1 which requires the water to be suitable for water contact recreation and fishing. Current use of the area includes recreational and commercial fishing, lobstering, clamming, oystering and boating.

There are no known federal or state endangered species in the area, however, the Great Bay is a wintering area for large numbers of waterfowl. Undeveloped areas serve as rookeries for birds, while mudflats around the islands provide feeding areas. The shipyard is a highly-developed industrial property and is unattractive for most species of wildlife. Because it is a small highly-developed island, the shipyard has very little natural surface runoff. An extensive stormwater or collection system has been constructed at the shipyard, and most surface runoff is conveyed through the storm system to specific outlets into the Piscataqua River.

A Technical Review Committee (TRC) was established in 1987 and was converted into a Restoration Advisory Board (RAB) in FY95. There are twenty RAB members. The NSY Kittery RAB held its first public meeting in August 1995. Prior to establishing the RAB, four meetings were held for a site tour and to provide information to the new participants in the Installation Restoration Program (IRP) at Portsmouth and the role of the RAB members. An Information Repository was set up in 1987 at the Rice Public Library in Kittery, Maine and the Portsmouth Public Library in Portsmouth, New Hampshire.

At the end of FY95, 18 of the 33 sites at NSY Kittery were in the study phase, and 15 are Response Complete (RC). In FY95, a draft Feasibility Study (FS) Report for 11 of the 13 Solid Waste Management Units (SWMUs) was submitted to the EPA and the Maine Department of Environmental Protection (MEDEP). Based on review comments received, five SWMUs will be proposed for no further remedial action, and additional information will be necessary to characterize the extent of offshore migration at four SWMUs. Additional site characterization at two SWMUs is necessary due to regulatory concerns and historical information found by NSY Kittery indicating the sites are perhaps larger than originally believed.



Current Status Of Sites

Studies Underway	18
Cleanups Underway	0
Response Complete	15
TOTALS	33

PORTSMOUTH NSY, KITTERY
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Portsmouth, as a coastal area, has a complex hydrological environment. There are three ecological environments based on the salinity of the water. The marine ecosystem has a relatively high salt content. An estuarine ecosystem has a salinity which is highly variable depending on the tidal state and precipitation. The third environment, a freshwater ecosystem, has very low salinity. The marine ecosystem begins in the vicinity of the shipyard and goes eastward into the Atlantic Ocean. The estuarine ecosystem abuts the marine ecosystem and reaches inland into Great Bay. The boundary between the two is indistinct and dependent on freshwater input and tidal flux. The freshwater ecosystem is entirely in the stream regime that feeds the bays and estuaries. The boundary between the estuarine and freshwater ecosystems is also indistinct for the same reasons. The harbor is in the marine ecosystem. Because it is a small highly-developed island, the shipyard has very little natural surface runoff. An extensive stormwater or collection system has been constructed at the Shipyard, and most surface runoff is conveyed through the storm system to specific outlets into the Piscataqua River.

NATURAL RESOURCES - The Piscataqua River is part of the Great Bay Estuary. There are five main habitats in the Estuary; eelgrass, mudflats (unvegetated), salt marshes, channel, and shellfish (part of other habitats). Ecological receptors specifically include lobster, shellfish, finfish, and other benthic fauna and flora. The presence of metals, oils, grease, the chemical additive PCB, cyanides, and phenols have been detected. Sediment and surface water have been impacted. The river, as part of the estuary, is a resource of tremendous value. Current use of the area includes recreational and commercial fishing, lobstering, clamming, oystering and boating.

There are no known federal or state endangered species in the area; however, the Great Bay is a wintering area for large numbers of waterfowl. Undeveloped areas serve as rookeries for birds, while mudflats around the islands provide feeding areas. The shipyard is a highly-developed industrial property and is unattractive for most species of wildlife.

RISK - A Human Health Risk Assessment was finalized for both on-shore and off-shore studies and submitted for review. No sites pose a risk to human health based on EPA's acceptable risk range. The Human Health Risk Assessment for off-shore exposure identified a number of risks based on recreational and subsistence fishing.

An Ecological Risk Assessment was developed for the Pisacataqua River and Great Bay Estuary to determine the extent of ecological risk posed by NSY Kittery on these environments. Development of Preliminary Remedial Goals (PRGs) or Media Protection Standards in RCRA was begun. The offshore assessment has been coordinated by the Navy Marine Environmental Support Office (MESO) and has required the development of sampling and analytical methodologies for use in the marine environment, particularly regarding achieving low level detection of chemicals for sediment, surface water and biota.

Two sites and seven Solid Waste Management Units (SWMUs) have received a high relative risk ranking using the DOD Relative Risk Ranking System. One of the sites was used to incinerate wastes. Exposure can occur through contact with soils and groundwater in the area which flows to the Piscataqua River. Ash and residues were removed to a study yard. Another site was used for galvanizing and metal cleaning. This site is now a Navy school. Although there is a potential for the wastes to leach into the groundwater, dermal contact with the soils is of the greatest concern. Seven SWMUs have a high relative risk ranking because metals, oils, and solvents can migrate via surface and groundwater and to the shellfish and biota in the Piscataqua River. Four of the SWMUs are Underground Storage Tanks (USTs), two are landfills, and one is an area where an oil pipeline ruptured.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NSY Kittery was proposed for the National Priorities List (NPL) in June 1993 with a Hazard Ranking System (HRS) score of 67.70. It was listed on the NPL on 31 May 1994.

LEGAL AGREEMENTS - A Federal Facility Agreement (FFA) with EPA and the Maine Department of Environmental Protection (MEDEP) is under negotiation. A Site Management Plan (SMP) is being developed as a project management tool.

PARTNERING - NSY Kittery fostered partnering by including EPA, the MEDEP, and Natural Resource Trustees early in the decision-making process. EPA has been closely consulted to ensure smooth transition from the RCRA Corrective Action Program to a CERCLA cleanup program. Formal partnering is proposed for FY96.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was established in 1987 and was converted into a Restoration Advisory Board (RAB) in FY95. There are twenty members on the RAB including representatives from the community, Navy, Natural Resources Trustees from Maine and New Hampshire, the US Fish and Wildlife Service, National Oceanographic and Atmospheric Agency, EPA Region I and Maine Department of Environmental Protection. The NSY Kittery RAB held its first public meeting in August 1995. Prior to establishing the RAB, four meetings were held for a site tour and to provide information to the new participants in the Installation Restoration Program (IRP) at Portsmouth and the role of the RAB members.

COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was established in FY93 and is being updated to reflect current informational needs of the community.

INFORMATION REPOSITORY - An Administrative Record was established in 1987. An Information Repository was set up in 1987 at the Rice Public Library in Kittery, Maine and the Portsmouth Public Library in Portsmouth, New Hampshire.

PORTSMOUTH NSY, KITTERY
HISTORICAL PROGRESS

FY83

Sites 1-4 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), was completed in June 1983 at NSY Kittery which identified a total of four potentially contaminated sites. The study concluded that none of the sites posed an immediate threat to human health or to the environment. However, these sites went on to further study.
Site 1 (Jamaica Island Landfill) - The IAS recommended this site for further investigation based on migration potential to the surrounding Harbor waters. The remaining sites were recommended for no further investigation.

FY86

Sites 1-4 - A Confirmation Study (CS), equivalent to a Site Inspection (SI), was completed in May 1986. The CS addressed Site AA (Site 1 in the IAS) and Site BB (Defense Property Disposal Office (DPDO) Scrapyard) which was identified during the Department of the Navy (DON) review of the IAS. The CS recommended actions were postponed because the EPA was conducting a RCRA Facility Assessment (RFA), which was completed in July 1986. The RFA renamed the four previously identified sites as Solid Waste Management Units (SWMUs). All remediation work is now being conducted under RCRA Corrective Action rather than CERCLA.
SWMUs 1-28 - An EPA Region I contractor completed an RFA at NSY Kittery in July 1986. The assessment identified 28 SWMUs. A RCRA/ Hazardous Solid Waste Amendment (HSWA) permit required additional investigation at 13 SWMUs (5, 6, 8-13, 16, 21, 23, 26 and 27). The remaining SWMUs (1-4, 7, 14, 15, 17-20, 22, 24, 25 and 28) were recommended for No Further Action (NFA) after the RFA.

FY89

SWMUs 5, 6, 8-13, 16, 21, 23, 26 and 27 - A RCRA Facility Investigation (RFI) was conducted for the 13 SWMUs identified in the HSWA permit.

FY90

SWMUs 6, 8 and 9 - Phase I RFI field work was conducted.
SWMUs 5, 6, 8-10, and 27 - Phase II RFI consisted of a groundwater evaluation; a baseline sediment study of the Piscataqua River; additional studies at SWMUs 6, 8 and 9; and initial studies at SWMUs 5, 10, 27 and the River.

FY91

SWMUs 5, 6, 8-13, 16, 21, 23, 26 and 27 - The draft RFI Work Plan was submitted for regulatory review in November 1989 and was finalized in April 1991. Phase III RFI included additional surface soil and groundwater sampling at SWMUs 6, 8, 9, 27, the Day Care Center and the Freshwater Ponds. Phase IV RFI consisted of subsurface excavation at SWMUs 8 and 9; a seismic refraction survey; additional monitoring wells at SWMUs 6, 8 and 26, additional soil sampling at all SWMUs and a comprehensive air monitoring study.

FY92

SWMUs 5, 6, 8-13, 16, 21, 23, 26 and 27- The draft RFI report for the 13 SWMUs was submitted for regulatory review in July 1992 and was approved "with conditions" in April 1993 and seven of the SWMUs are being considered in the Corrective Measures Study (CMS).
SWMU 9 - Phase IV RFI was expanded to a Phase IV a in February 1992 to do some additional rounds of groundwater sampling and some subsurface excavation at SWMU 9.

FY93

SWMUs - An Addendum to the RFI Report was submitted in May 1993. The proposed Media Protection Standards were submitted in July 1992 and disapproved in April 1993.

FY94

SWMUs - Several significant cleanup milestones were reached in FY94. Actions completed were RFI data gap field work, Onshore Media Protection Standards, and draft Offshore Ecological and Human Health Media Protection Standards.
SWMU 6 - An interim Corrective Measure at the DRMO Scrap Yard to install a cap was completed in December 1993. Results of the Human Health Risk Assessment indicated elevated levels of heavy metals posing an occupational hazard. A geotextile cap was installed to reduce inhalation of dust and direct contact with the soil and to reduce surface runoff and infiltration. The design was completed in June 1993 and construction was completed in December 1993.
SWMU 8 - A removal action was completed in October 1993 which consisted of installing a soil and geocomposite clay cap.
SWMU 11 - A groundwater and soil gas survey was completed using direct push technology, which expedited the assessment.
SWMUs 10-13, 16, 21 and 23 - Seven Underground Storage Tanks (USTs) were removed during the RFI. Two of these sites remain under investigation for possible further cleanup.

PROGRESS DURING FISCAL YEAR 1995

FY95

SWMUs - During FY95, reports for field work conducted in FY94 were finalized for the RFI Data Gap Investigation and Phase II Ambient Air Quality Monitoring. A draft work plan for a groundwater investigation was developed in FY95. Development of a work plan to conduct data gap investigations and monitoring for the Piscataqua River was begun in FY95. An Ecological Risk Assessment was developed for the Pisacataqua River and Great Bay Estuary to determine the extent of ecological risk. Development of Preliminary Remedial Goals (PRGs) or Media Protection Standards (MPS), was begun. As part of the off-shore investigation, the Navy Marine Environmental Support Office (MESO) developed sampling and analytical methodologies for use in the marine environment, particularly in regards to low level detection of chemicals for sediment, surface waste and biota.

SWMUs 6, 8-13, 16, 23 and 27 - A draft Feasibility Study (FS) Report for 11 of the 13 SWMUs was submitted to the EPA and Maine Department of Environmental Protection (MEDEP). Based on review comments received, NFA is indicated at SWMUs 12, 13, 16 and 23. Additional information to characterize the extent of offshore migration at SWMUs 6, 8 and 27 is required as well as additional site characterizations at SWMUs 6 and 10 due to regulatory concerns and historical information found by NSY Kittery.
SWMUs 9 and 11 - These SWMUs will be included with SWMU 8 in an Operable Unit (OU).
SWMUs 10-13, 16, 21 and 23 - The sites continue to be investigated to determine whether further remediation is warranted.

PORTSMOUTH NSY, KITTERY
PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

SWMUs - A draft work plan for a groundwater investigation will be finalized and implemented. Development of a work plan to conduct data gap investigations and monitoring for the Piscataqua River will be finalized and implemented. Finish PRGs or MPS for offshore media based on ecological and human health risks. Conduct a FS to consider possible remedial alternatives for offshore media.
SWMUs 6, 8, 10 and 27 - Conduct additional site characterization prior to finalizing the FS Report for these sites.
SWMUs 6, 8 and 9 - Long Term Monitoring (LTM) is expected.
SWMUs 12, 13, 16, 23 and 26 - NFA is expected.

FY97

SWMUs - Perform groundwater and offshore investigation.
SWMU 6 - Remedial Design (RD) at SWMUs 6 will be done.

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	13	1	1					2
SI		1		1				2
RI/FS			6	4		4		3
RD				1	1	3		6
RA								11
IRA	1(1)							5(5)
RC			5	1				11
Cumulative Response Complete			29%	35%				100%
RCRA CA	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
RFA	15							
RFI								
CMS								
DES								
CMI								
IRA								
RC	15							
Cumulative Response Complete	100%							
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	1							
INV			1					
CAP				1				
DES					1			
IMP							1	
IRA					1(1)			
RC							1	
Cumulative Response Complete							100%	